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## BY THE BLASTED HEATH.

THE barometer has fallen somewhat since last night, and there are ominous clouds looming here and there in the west; but the sky is clear blue overhead, the white road is dry and dazzling, and the sun is as hot as could be wished. Besides, is not this in the Highlands, and who cares there for rain? Never mind the wraps, then, but grasp a good hazel staff and take to the road with a light heart. Out to the eastward, the way turns along the top of the quaint fisher town with its narrow lanes and throng of low-thatched roofs, till at a sudden dip the little bridge crosses the river. Sweet Nairn! The river has given its name to the town. A hundred and forty years have passed since these clear waters, wimpling now in the sun, brought down from the western moors the lifeblood of many a wounded Highlander flying from dark Culloden. The sunny waters keep a memory still of the flight of the last Prince Charles, and their flowing has not yet washed away the stain from the pursuing footsteps of the sanguinary Duke.

Like a crow-flight eastward the road runs straight, having on the left, beyond the rabbit warren, the silver-sand beach and the sea, and on the right the fertile farmlands and the farther woods. The white line glistening on the horizon yonder, far along the coast to the east, is a glimpse of the treacherous hillocks of the Culbin shifting sands. They are shining now like silver in the calm forenoon; but, as if restless under an eternal ban, they are for ever moving, and, when stirred by the strong sea-wind, they are wont yet to rise and rush and overwhelm, like the dust-storm of the Sahara. For two hundred years, a goodly manor and a broad estate have lain buried beneath those wastes, and what was once called the Garden of Moray is nothing now but a desolate sea of sand. They say that a few years ago an apple-tree of the ancient manor orchard was laid bare for some months by a drift, that it blossomed and bore fruit, and again mysteriously disappeared.

Curious visitors, too, in the open spaces where the black earth of the ancient fields is exposed, can still see the regular ridges and furrows as they were left by the flying farmers; and the ruts of cart-wheels two hundred years old are yet to be traced in the long-invisible soil. Flint arrow-heads, bronze pins and ornaments, iron fish-hooks and spear-points, as well as numerous nails, and sometimes an ancient coin, are to be picked up about the mouldered sites of long-buried villages; but the manor of Kinnaird, the only stone house on the estate, lies hidden yet beneath a mighty sand-hill, as it was by that awful storm which in three days overwhelmed nineteen farms, altered by five miles the course of a river, and blotted out a prosperous country-side. Pray heaven that yonder terrible white line by the sea may not rise again some night on its tempest wings to carry that ruin farther!

Over the sea, looking backward as the highway at last bends inland, the red cliffs of Cromarty show their long line in the sun, and, with the yellow harvest-fields above them, hardly fulfil sufficiently the ancient name of the Black Isle. Not a sail is to be seen on the open firth, and the far-stretching waters under the sunny sky, bicker with the 'many-twinkling smile of ocean.' Here, though, two miles out of Nairn, where the many-rick'd farmhouses lie snug among their new-shorn fields, the road rises into the trim village of Auldearn.

How neat the little gardens are before the cottages, bright yet with late autumn flowers. Yellow marigolds are glistening there within the low fences beside dark velvety calceolarias and creamy stocks, while the crimson flowers of tro-pœla cover the cottage walls up to the thatch, and some pale monthly roses still bloom about the windows. A peaceful place it is, and little suggestive of the carnage that it saw just a hundred years before Culloden. Yet here it was that in 1645 the great Montrose, fighting gallantly for the First Charles, drove back into utter rout the army of the covenanting parliament. Over there on the left, among sheepfolds

and dry-dike inclosures, lay his right wing with the royal standard ; nearer, to the right, with their backs to the hill, stood the rest of his array with the cavalry ; and here in the village street, between the two wings, his few guns deceived the enemy with a show of force. It was from the church tower up there in front that Montrose surveyed the position ; and below, in the little churchyard and church itself, lie many of those who fell in the battle. They are all at peace now ; the eastern Marquis and the western, Montrose and Argyll, long ago fought out their last great feud, and departed.

The country about has always been a famous place for witches, and doubtless the three who fired Macbeth with his fatal ambition belonged to Auldearn. Three miles beyond the village, the road runs across the Hardmuir, where the awful meeting took place. It is planted now with pines, and the railway runs at less than a mile's distance ; but even when the road is flooded with sunshine, there is a gloom among the trees, and a strange feeling of eeriness comes upon the intruder on their solitude. Here on the left is the gate into the wood, and the witches' hillock lies at some distance out of sight. How silent the place is ! Not a breath of air is moving, and the atmosphere has become close and sultry. There is no path, for few people follow their curiosity so far. Dry ditches and stumps of old trees make the walking difficult ; withered branches of the pines crackle suddenly sometimes under tread ; and here and there the fleshy finger of a fungus catches the eye at a tree root.

And here is the hillock. On its bald and blasted summit it is that in the lurid corpse-light,

The weird sisters, hand in hand,  
Posters of the sea and land,  
Thus do go about, about ;

when Macbeth, approaching the spot with Banquo on their return to King Duncan at Forres, after victory in the west over Macdonald of the Isles, exclaims :

So foul and fair a day I have not seen !

and the hags, suddenly confronting the general, greet him with the triple hail of Glamis, Cawdor, and King. The blasted hillock was indeed a fit spot for such a scene : not a blade of grass grows upon it ; the withered needles and cones of the pines lie about, wan and lifeless and yellow ; and there, where the witches emptied their horrid caldron, and the contents ran down the hill, the earth is bare and scorched and black. Even the trees themselves growing on the hillock are of a different sort from those on the heath around ; and less than five miles from the spot, the moated keep of Cawdor, where the last awful prophecy was fulfilled by Macbeth's murder of King Duncan, frowns yet among its woods.

But what is this ? The air has grown suddenly dark ; the gloom is oppressive ; and in the close heat it is almost possible to imagine there is a smell of sulphur. A flash of light-

ning, a rush of wind among the tree-tops, and a terrible crash of thunder just overhead ! A moment's silence, a sound as if all the pines were shaking their branches together, a deluging downpour of rain, and the storm has burst. The spirits of the air are abroad, and the evil genius of the place is awake in demoniac fury. The tempest is terrific. The awful gloom among the trees is lit up by flash after flash of lightning, the cannon of thunder burst in all directions, and the rain pours in torrents. The ghastly hags might well revisit the scene of their orgies at such a moment. It is enough. The powers of the air have conquered. It is hardly safe, and by no means pleasant, to remain among the pines here in such a storm. So farewell to the deserted spot, and a bee-line for the open country. To make up for the wetting, it is consoling to think that few enthusiasts have beheld so realistic a representation of the third scene of Macbeth.

#### RICHARD CABLE,

THE LIGHTSHIPMAN.

#### CHAPTER XXIV.—A FISH OUT OF WATER.

'WARM, sir, or cold ?' asked the boy who assisted the butler, cleaned the boots, and was generally useful about the house.

'Warm or cold *what*?' asked Richard in return.

'Please, sir, your bath. A can of warm water, or all cold, sir ?'

'I don't want neither.—Bath !' exclaimed Richard—'bath ! I ain't a baby to be tubbed.—And who are you ? Are you sent to tub me ?'

'Please, sir, every gentleman has his bath every morning, sir. Mr Cornellis always do.'

'Every morning !' gasped Cable. 'Mercy on us—every morning ! I'll have it neither hot nor cold. Take that flat pan away.'

Richard Cable's early hours surprised the household. In England, we are not early risers ; we prefer the fag-end of the day to the prime of the morning. We neither rise with the sun nor set with him. The English day is like the calendar before the 'new style' was adopted, it is wrong with the sun. The scullery-maid was startled one morning to find the master laying and lighting the fire in the kitchen, to save her trouble ; nor was the boy less astonished to find him blacking his own boots.

'My dear Richard,' said Josephine that same morning, 'what dirty hands you had at breakfast. What had you been doing ?'

'Cleaning the boots—there are such a lot for that whipper-snapper of a boy.'

'You must not do that.—And, now I am on the subject, I have put a nail-brush in your washstand ; would you mind using it ?'

'Anything to please you,' answered Richard.

'And—by the way—you really must not call the butler, Sir ; nor the housemaid, Miss.'

'Why not ? They are as good as me.'

'It won't do ; they only laugh at you behind your back. And don't address the boy as Young

Shaver ; that also is not quite right.—Do not be angry with me, Richard.'

'I'm not angry,' he said. 'It's enough to make me swear.'

'Richard !'

'I only mean that it puts me in a fever to think what I ought to do and what I ought not to do. It's like what they do to lunatics—put 'em in strait-waistcoats. I seem to be in one now, and you a-lacing of me up as tight as ever you can. I'll get to like it in time maybe, but it ain't easy at first.'

'If you do not mind my speaking,' pursued Josephine, 'there is one little matter more. You managed to cut these ribs of mutton well enough last night; but you should not take the end of the chop in your hand and pick the bone with your teeth. You cut off all the meat with the knife, holding the bone with your fork.'

'But I couldn't get it all off.'

'Then send it out, cleared with the knife, as well as you can.'

'It's wicked waste.'

'I tell you it won't do. Then you wiped your fingers on your whiskers.'

'Where else would you have me wipe them? Not on the tablecloth, surely ?'

'Of course not—on your napkin.'

'But that is so beautifully clean, it is a pity to dirty it.'

'It can be washed.—Richard, it won't do; the whiskers were not given to a man to clean his greasy fingers on. I saw my father laugh, and my aunt did not know which way to look. The butler ran out of the room and exploded in the hall.'

'Well,' said Cable cheerfully, 'I gave 'em a good laugh, and I'm glad of that. That butler chap seems solemn as a Methody parson. He don't seem to me like a proper human being, but to be a doll moved by clockwork. I'll try him some evening. He and I'll have a pipe and grog together, and I'll tell him some of my good stories, and see if I can't make him jolly.'

'You shall do nothing of the sort, Richard,' said Josephine sharply; 'I cannot have you demean yourself to the level of the servants.' Then seeing that he was hurt, she regretted the tone in which she had spoken, went to him, put a hand on each of his shoulders, and looking into his troubled face, said : 'Richard, I've been considering about the little ones. It won't do to have them living away in another house. It will make me jealous, for you will be always running away from me to be with them, and you will come to regard that cottage as your home, not this. Besides, if you are to break with the past mode of life, it will be best to do this altogether and at once.'

'Give up the cottage?' exclaimed Richard, and his face expressed distress.

'You will bring all the dear children here.'

'Yes,' said he, musing; 'they will like the garden; it is very pretty; but it won't quite be

like the old one, neither to them nor to me.' A look of pain was in his kind face. 'But, when the grapes are ripe, we'll go there and picnic whilst I cut the bunches.'

'There are better grapes in the houses here. The sweet-water and muscat'—

'Ain't equal to the home grapes, I'll swear,' said Cable. 'Bless me! it ain't the quality; it's the where they grows.'

'Where they grow, not grows. "They" is plural, not singular.'

'That's all,' he said in a tone of depression.

'I am afraid I interrupted you.'

'I was only thinking what larks it was—me up the ladder cutting the grapes and passing 'em down to the children; and I don't believe any other grape could taste as sweet and look as lovely as did those black Hamboros—not to the children. They growed'—

'Grew,' interjected Josephine.

'They growed,' Richard went on, disregarding the interruption, 'over the roof what all them little golden heads lay under; and I used to say that was how the bunches ripened on all sides alike. Above was the sun, and under were those six little sunny heads and hearts, warming the roof above. The black Hamboros couldn't do other than ripen under the circumstances, and be sweet as sugar-cane.'

'There is only one difficulty in the matter that occurs to me,' said Josephine, 'and that is about your mother. She would hardly like to come and live here with us. She would feel out of her element at our table and in the drawing-room; and yet, she will not like to leave the children. I have thought of engaging a nurse and a girl to attend to the children. But your mother—what is to be done with her? You see, she would be a difficulty if she associated with us; and we could not suffer her to associate with the servants. I am puzzled what to do.'

'Never think that she will come here,' said Richard. 'I don't believe she'd other than suffocate—not that she's asthmatical; but I fancy there's something here might take the breath away and kill her. I feel it; and I'm young. There ain't a room in the house where I can properly stretch my legs and arms, big though the rooms be, and I could do it in my little lean-to bedroom at the cottage.'

'What do you say, Richard, to her going into the lodge? She need not open the gate when carriages come; she can keep a girl to do that. There she will be near the children, and yet not in the house. I suggest this because I think it would suit all of us.'

'Don't ask my opinion,' said Richard sadly; 'it's a queer turnabout. When you came to me, you asked me to guide and pilot you; and now it is I, not you, am in unknown seas, and I know no more what to do and where to go than if I was in the desert of Sahara. It is you are pilot, not I. What you say is to be done—I must do; and where you say I am to turn my bows, there I steer.'

'Will your mother consent to come to the lodge?'

'I daresay, if you wish it. She's a proud woman, and would not like to intrude where she is not wanted. She's not been here yet, and will never come unininvited. She was born

and bred in that lodge, and there her father's body was brought when he was drowned, and there her mother died. It will be to her a home because of all the memories that cling about it. It is that which makes a home, miss.'

'You have forgotten—you must not call me miss.'

'Of course not. You're right, and I'm wrong. I'm in that state of muddle that I don't know anything. I was saying that it is the memories that make a home. It isn't the sticks of furniture, nor the carpets, nor the pictures. 'Tisn't even the live beings you put into the place ; it is all the thoughts and experiences, the sorrows and the joys that take a long time a-growing, but which will grow everywhere, if you allow them the proper time. Everything here is strange to me. I don't know my way about the house yet, and the ways of life are stranger still. I reckon that even bringing the little ones here will not make a home of it all at once. But with time and patience, it will come. I remember how it was with that black Hamboro. It was a little bit of a plant given me by Jonas Flinders before ever I married Polly, struck off the vine he had. It was nothing, but it grew'—

'It grew,' corrected Josephine.

'It grew,' said Richard, and touched his forelock. 'It grew beautifully, little by little, first the blade, then the leaf, and then the tendril and flower, and last of all the fruit ; and it ran at a gallop when once it had got upon the roof, as if it could not grow fast enough, and cover enough of warm roof, and I had to pick off scores of bunches, or it would have made too many and exhausted itself. But, you understand, that was after a while, not all at once. So, perhaps, it is here. There are the cuttings put in, and we must wait for leaf and flower and fruit and the clinging tendrils—all that will come in due time, if it please the Lord. I'll bide in patience ; I can't expect it all at once.'

Richard walked away, to talk the matter over with his mother. When he was out of the house and garden, by himself on the seawall, the cloud that had been hovering over his brow descended and darkened the expression of his face. Sometimes, whilst we are watching a glittering snow-wreathed Alpine peak, on which the sun is blazing, light clouds drift across the head and disappear ; then others gather and cling, and by degrees the snows are enveloped in vapour, and what was fleecy becomes heavy, and what was white darkens to purple, and the whole sky is changed ; the sun is no more seen, but thunder and rain riot about the mountain. It was not quite so with Richard Cable, but threatenings of a storm appeared. Whilst he was with Josephine, he had exerted great self-control. A man sensitive and diffident, he was hurt by her correction of his mistakes, at the time that he acknowledged that he was liable to make mistakes. He wished to do what was right ; but in the position in which he found himself, it was not possible for him to discover within himself the rules by which to act.

The rules of social life are to some extent arbitrary, or they are founded on conditions which a man of the people does not understand. They do not spring out of the eternal principles of right and wrong, but out of social adjustments

and compromises arrived at by generations of culture. Consequently, Richard had as little knowledge of what to do, as a man who cannot swim knows how to save himself when out of his depth, with a current carrying him out to sea. He made mistakes, floundered about, was aware that he became ridiculous, and yet did not know how to avoid error, and where to find and how to put his feet on firm ground. To a man with self-respect, with strong sense of moral dignity, such a situation is eminently galling. Richard had avoided showing how he suffered, whilst he was with Josephine ; but when he was by himself, the sense of humiliation, of irritation, and a brooding anger against no particular thing and no one in particular began to overshadow and darken his spirit. Several times during his conversation with Josephine a flash had passed through his mind ; but it was like summer lightning unattended by muttering thunder. Now his step had lost its even swing ; he walked hastily and irregularly, as his humour altered. At one moment he was hot, and a quiver of anger ran through him ; then he cooled, and his breast rose as he drew a long breath. He put up his hand to his brow. 'I declare,' he said, 'I don't know whether I'm in an ague or what is on me. I never was like this afore. Well, 'tis disconcerting, when a tug that is signalled to, instead of tugging, is taken in tow.'

Josephine, after he had left, remained with her hands in her lap, looking out of the window at nothing, thinking about Richard. She was sorry that she had said so much to him about his mistakes ; but really, she did not know where to begin with his schooling, there was so much to correct in his language and manners and habits. It was strange that she observed his want of refinement now, and that she had not noticed it before. Even on board the *Josephine*, it had not been observable ; it was only conspicuous when he was out of his navy-blue sailor's jacket and loose trousers and flapping collar, and cap with the ribbons behind. What a fine fellow he was walking the deck ! How was it that he cut such a grotesque figure in the drawing-room ? She was provoked with him that he did not conform at once to more cultured life, and accommodate himself instinctively to the methods and modes of the class into which she had translated him. Then she beat down the feeling of vexation that rose in her heart, and reasoned with herself that she was demanding of him impossibilities. She was alive to his good qualities, but they were good qualities badly set. A diamond is nothing till it is cut and polished ; the precious metals must be cleansed of their dross before they acquire their proper value. The roughness of surface, the inherent dross in Richard, were unpleasantly conspicuous, and the polishing, the purifying, could not be done all at once. She began to see that he would be useless to her as an adviser, and that she would be thrown back on her father, for lack of another. Her father had treated her with great forbearance, even kindness, since her final battle with him, since he saw that she was resolved to carry her point. He had not reproached her since ; he had not taken advantage of the opportunities Richard had given him for letting her see that he was out of place. He did his best to thrust Richard

forward—to insist on his occupying the principal position in the house ; he showed deference to him, and himself kept in the background. This was a little provoking occasionally, because Cable was incapable of taking the lead, and wanted support and direction, which Mr Connellis, with apparent delicacy, refrained from tendering.

Richard Cable had but just returned from the cottage, and had rejoined Josephine in the garden, to tell her the result of his interview with his mother, when a handsome carriage and pair with liveried coachman and footman drove in at the gates and drew up at the porch.

'Good gracious !' said Josephine, 'there is Lady Brentwood.—Richard, do be on your *P's* and *Q's*'

'On my what ?'

She had no time to explain, as Lady Brentwood had seen her and was waving her parasol to her.

Josephine ran to the carriage-door, and was followed by her husband. 'Richard, help Lady Brentwood down.—Let me introduce my husband, dear Lady Brentwood.'

Lady Brentwood was a tall fine woman, with almost white hair, and dark eyebrows, which she raised and depressed in a manner that made the person she was speaking with think she was being stared at and quizzed. Lady Brentwood was not above taking stock of the person she conversed with ; but she was incapable of doing what was rude. The fact of her eyebrows being very marked and dark, and of the trick she had of throwing them up and then bringing them down again, and screwing up her eyes, gave her the appearance of being a quiz.

'Have you come a long way, ma'am ?' asked Richard. 'Would you like some refreshment ? I'm sure you look tired.'

'Thank you, Mr Cable,' said Lady Brentwood, her eyebrows very elevated, and this time with real amazement. 'I will ask your wife for a cup of tea.'

Josephine sighed. How she then wished she were cast with Richard on a desert island. They might be happy together there, but not in England. 'Shall I ever be able to get my cub licked into shape ?' she asked herself, and sighed again. 'I believe my father was right ; I have made a fatal mistake.'

'My dear,' said Lady Brentwood, 'you know me—you know what I am—the most obstinate creature in the world, only to be paralleled with the donkey, especially when set on wickedness. Now, I have set my heart on something tremendously naughty. I'm going to carry you and your husband off for a night, at once. I will take you away with me in my carriage. I've got Admiral Fitzgibbon, and Mr Jenkyns, who is one of the Lords of the Admiralty—and, *entre nous*, knows no more about ships than an opossum—coming to dine with me, and I want your husband to be with us. He knows all about nautical matters ; he has them at his fingers' ends ; and Mr Jenkyns will be thankful to meet him. Mr Cable will be a perfect treasure to the Lord of the Admiralty. Your husband is a specialist in his way. You see I am horribly selfish and savagely frank. I tell you everything. The fact is, I want to make an agreeable dinner-party, and I know that

your good dear husband will be the dish of dishes for Mr Jenkyns and Admiral Fitzgibbon.'

'Where is the wickedness, ma'am ?' asked Richard, much surprised. 'If I can be of any use, or agreeable to any one, I'm heartily willing.'

'My dear Mr Cable—is it not cruel—barbarous, to drag you and Josephine away just after your arrival, before you have had time to turn about and shake down?—before you have unpacked all the treasures you have picked up on your wedding tour?—before you have arranged the pretty presents given you on your marriage ? Upon my word, I am ashamed of myself ; but there—I am the most selfish woman in the world.' Up went her eyebrows. 'I have told you my reasons ; I play with my cards on the table.'

'Why, ma'am,' said Richard Cable, 'I don't see that this is cruel of you, not barbarous at all, but very kind. Some folks, when they do a pretty thing, make a deal of palaver about it. But you, ma'am, as I judge, do a kind thing, and try to make it seem as if it was you who were favoured, and not we.'

Lady Brentwood raised her eyebrows ; she was touched with the simplicity of the man ; but Josephine thought the raised brows meant that she was amused at his simplicity and was inwardly laughing at it ; so she said hastily : 'You are indeed most kind—but you are always kind.' She cast a look at her husband, intended to bid him hold his tongue and leave the conduct of the affair to her. 'But—'

'I will take no *buts*,' said Lady Brentwood. 'I have Mr Cable on my side, I am sure.'

'Well, ma'am,' he began again ; but Josephine cut him short.

'I shall be very happy, dear *Lady Brentwood*—she looked at her husband indignantly as she emphasised the title of her visitor—'I shall be only too pleased to be with you ; but, unfortunately, my husband cannot accompany me.'

'Why not ?' asked Lady Brentwood with pursed lips and raised brows.

'You see, he has so much to attend to just at present—about the yacht. There are the men.' An idea flashed through her head. 'They are to have their supper to-night, and it would perhaps hurt their feelings if Richard did not attend.'

'Can you not postpone the supper ?'

'Hardly. I suppose the goose is killed and stuffed. The men will be paid off and dispersed.'

'But, my dear, we have a lawn-tennis party to-morrow, and Mr Jenkyns leaves to-morrow morning. It is such an opportunity. I really have set my heart on introducing the Admiral and Mr Jenkyns to your husband. You know Admiral Fitzgibbon ? His wife is a charming woman, the daughter of Lord Arthur St Clair.'

A dinner at Brentwood Hall ! Her husband encircled by an exalted naval officer, a Lord of the Admiralty, gentlemen of county position, ladies of high degree and perfect polish, all quizzing and observing. The idea to Josephine was intolerable. She thought of him sitting on the edge of a chair with his knees wide apart, and his great red hands on each knee, his elbows stiff, his boots shapeless, his face brown. She thought of him cutting his bread, holding the knife at

the junction of the blade and the haft, and cutting the bread against his thumb. It would never do. If he were resolved to go, she would stay at home. The colour mounted to her cheeks.

'Impossible, I do assure you, dear Lady Brentwood. You must really excuse him. In a little while, it will be different. My husband will be more free; now, his hands are tied. There are—she hesitated—'reasons which make it necessary for him to stay; but I will attend you, if you will put up with poor me.'

'My dear,' said Lady Brentwood, laughing, 'the lavender will flourish here.'

'Lavender! What do you mean?'

'Do you know, Mr Cable?' asked the visitor with a mischievous but good-humoured laugh.

'No, ma'am—I mean, my lady.' He caught his wife's eye. 'I don't see why lavender should not thrive here; it likes a sandy soil, and the sand comes out in the garden. I can't say I've observed any in the beds; but I'm partial myself to lavender, and I'll have some put in; leastways!'—he corrected himself—'I have no doubt she will, and if she don't care to have it here, I can plant some in the cottage garden.'

'Oh,' said Lady Brentwood, laughing, and with elevated eyebrows—'oh, the lavender will grow here.'

Joséphine winced, and was hot. What did her visitor mean? Was she poking fun at her?

'You do not know?' asked Lady Brentwood. 'I'll tell you all about it in the carriage.—Well, if it must be—I must swallow my disappointment. But what shall I do? These dear fox-hunters and sporting men will talk of nothing but runs and covers; and the Admiral and Mr Jenkins will perish with ennui. You won't let Mr Cable come to the rescue. I am disposed to turn sulky; but there—I will not press you, though I feel sure, if I appealed to Mr Cable, I might carry my point. I can see it in his face. However, if the lavender is to grow, I will not interfere with its planting.'

Joséphine's nerves were tingling; her fingers burnt as though she had touched nettles. On one side was Lady Brentwood torturing her; on the other her husband with infinite possibilities of *gaucherie* in him, and she did not know what he might say or do next moment. She started to her feet with a sense of relief when her father and Aunt Judith entered the room. 'Dear Lady Brentwood,' she said, and her voice, in spite of her efforts to control it, shook slightly, 'you must not try your powers of persuasion; you know that you are irresistible. It is hard of me to ask you to receive me alone; but indeed my husband cannot, must not come. It is hard for me to attempt to entertain Lords of the Admiralty; but I have had my experience of sandbanks on which one may be cast away—and I can talk of that.' Then, at once, her temples flushed, as she thought that Lady Brentwood might suspect in these words a covert reference to her unfortunate marriage.—'Here is Aunt Judith! Whilst I get together my few effects, she will entertain you.—Richard will come and help me. He is, what I am not, a neat packer. I bundle all my things into the box, and sugar them over with pins.—Come, Richard!—You will excuse us, Lady Brentwood, I am sure.' Then she whisked out of the room,

followed leisurely by Cable. She slid her hand up the banister, and clutched it tightly at every few steps with convulsive twinges. She was in a state of quivering nervous excitation.

## TWO RECENT IMPROVEMENTS IN LIGHTING.

BY AN ANALYTICAL CHEMIST.

### I.—INDOOR LIGHTING.

CONSIDERABLE attention has recently been paid to the subject of domestic illumination, on account of the rivalry which has sprung up between gas and electricity since the latter began to make such headway in popular favour. If electric lighting had done no other good than that of rousing into activity the dormant gas Companies, it would still deserve a large amount of public gratitude. Those interested in gas have, ever since the electric light assumed a prominent and threatening position, made every endeavour to lower its price to the consumer, to improve its illuminating power, and, as if to prepare for the very worst, to find new applications for it, as in gas-engines, for cooking and for heating purposes. In the latter they have been singularly successful, for already the consumption of gas for cooking purposes alone is very great. The illuminating power of gas has also been increased, partly by more careful manufacture, and partly by improvements in the form of burner.

The luminosity of gas may be improved in three ways: Firstly, by the introduction of heavy gases or vapours of greater luminosity into the ordinary gas flame. These vapours burnt alone would smoke to an unpleasant extent; but when diluted with gas, they burn clear, and increase the power of the latter. The Albo-carbon Light is a successful application of this principle. Here the vapour of naphthaline is in small quantities automatically intermixed in the flame with a very brilliant result. Secondly, by increasing the temperature of the gas, or the gas and air, before combustion. The Wenham and the Bower regenerative burners are examples of this form of improvement. Thirdly, by the introduction of some incombustible substance which at a high temperature becomes itself luminous. No more familiar illustration of this principle can be given than the limelight. Here two gases—hydrogen and oxygen—are burnt in proper proportions; the flame produced is non-luminous, but intensely hot; it is allowed to impinge on a small cylinder of lime, which at this temperature becomes so highly incandescent that the light it emits is exceedingly dazzling and brilliant. It is the light most commonly used for magic-lantern purposes; but it is troublesome, costly, and dangerous.

Persons interested in gas illumination are familiar with a number of ways of applying the foregoing principles, on which improvements in the luminosity of gas flames are founded; but, with the exception of the systems above named, there are only a few which have proved a commercial success.

The improvement about to be recorded here belongs to the third principle stated above, and it may simply be regarded as an imitation of the limelight in a form suitable for domestic purposes. The limelight cannot be used ordinarily because

the temperature of coal-gas flames is too low to render the lime cylinder incandescent. Some substitute for lime must therefore be found which becomes incandescent at easily attainable temperatures. Such a substitute Clamond found, a few years ago, in threads of magnesia supported on platinum netting. The present improvements by Dr Auer Welsbach, of Vienna, and Mr James MacTear, lately of Glasgow, and of artificial diamond notoriety, were but steps in the same direction, and resulted in the employment of materials better suited to the purpose, but rarer than lime or magnesia. These two inventors have worked in lines very similar to each other, so similar, indeed, that we find Mr MacTear's name among the directorate of a Company about to be established for the sale of the Welsbach system of incandescent lighting, and it would not surprise us to hear that the two systems are incorporated.

Dr Welsbach uses a cowl of specially prepared cotton or wool about two and a half inches high, and of a diameter to suit the size of the burner. The cowl is supported by platinum wire held by iron rods or by other means. The cotton or wool is impregnated with a solution of certain salts of zirconium, and lanthanum or yttrium; and when heated, the cotton or wool burns away, and a network incrustation, consisting probably of the oxides of the metals used, remains, and becomes highly incandescent. The cowl cannot be placed on the ordinary yellow flame of gas, on account of its low temperature, and its tendency to deposit soot on any cold body brought in contact with it. The ordinary flame is therefore, by a simple arrangement for the admission of air into the gas previous to combustion, converted into the blue atmospheric flame, which is sufficiently hot to render the netted cowl incandescent. It is said that each cowl costs a farthing, and it burns with undiminished brilliancy for a thousand hours.

Mr MacTear's system differs from the preceding only in the shape of the burner and the salts used to produce incandescence. He winds the fibrous material round a thin platinum wire, and then twists this cotton-covered wire into a helical, a spiral, or a gridiron-like form. He saturates this wick with hydrate of strontium, then dries and ignites it, leaving oxide of the same metal. Or he may add to the same wick hydrate of zirconium in addition; or a soluble salt of barium or of thorium alone, or in combination with any of the preceding. As before, these salts when ignited leave an incrustation, which assumes the shape and position of the fibrous material which burns away.

It is certified for this system that the saving of gas is fifty per cent, and that each cubic foot of Glasgow gas consumed gives, with the Welsbach burner, on an average a light equal to about nine candles. It is also stated that the burner can be adapted to the ordinary gas fittings at a trifling expense.

Whatever may be the future of the light, it is certainly an inexpensive improvement on ordinary gas flames, and commends itself to us more particularly by the soundness of the principles upon which it is worked.

#### II.—OUTDOOR LIGHTING.

When large building or mining or kindred operations are carried on in the open air, there is

some difficulty in getting a sufficiently powerful light at a moderate expense. At the present time, the electric and the lime lights are the only ones suitable for this purpose. Both are satisfactory so far as illumination is concerned; but they are too costly, and, as a rule, too troublesome. No builder would dream of transporting the apparatus necessary for the production of the electric light to a job lasting a few hours or even a few days, on account of the heavy expenses such transportation would entail. The limelight, if it were not for its cost and the risk of explosion, commends itself particularly as an itinerant light. There is no heavy machinery belonging to it, in fact no machinery at all. Everything is ready to hand, and the light can be produced in less than five minutes. The oxygen and hydrogen contained in the bags may be comfortably carried on a boy's shoulder, and the lamp, which is simplicity itself, in his hand, so that the cost of transport is not worth taking into account. But the gases oxygen and hydrogen are very expensive, and, in places remote from large towns, almost impossible to obtain. This is the greatest drawback to the limelight.

That a want existed for a cheap and practical outdoor light is evident, and this want has been supplied by Mr J. B. Hannay's light, known commercially under the name of 'Lucigen.' It is not a little singular that the two Scotch chemists mentioned above—Messrs MacTear and Hannay—should have their names associated about the same time with two new systems of lighting; for it will be remembered that soon after Mr MacTear announced that he had discovered a method for manufacturing artificial diamonds, which did not turn out quite satisfactory after all, Mr Hannay also announced a similar discovery, with the result that his diamonds stood the tests of experts, but were declared of too small a size to be of any use commercially.

To enter into a full description of Mr Hannay's lamp would be out of place here. Suffice it to say that the construction is very complicated, and purposely designed to admit of the use of the very crudest oils—oils practically without commercial value. The ordinary lamp of two thousand candle-power holds thirty gallons of oil; but smaller sizes are made. The oil is burned in the form of spray, the spray being produced by the action of compressed air. An air-compressor is therefore required for the working of the lamp, and may be worked by hand or by steam. Steam-cranes are now so commonly used in buildings, that no extra expense is incurred in compressing the air. A light of two thousand candle-power can be obtained at a cost of about threepence an hour, according to the statement of the inventors; but, according to the certificate of Dr Wallace of Glasgow, the cost must be even less, for he found that the thirty-gallon lamp consumed nearly two and a quarter gallons of oil (costing barely two-pence) per hour, and gave a light equal to two thousand seven hundred and ninety-six standard candles. The light has had a fair trial, and general satisfaction is expressed by those who use it. It is eminently suited for industrial purposes, as the lamp will burn almost any kind of oil. The cheapest oil that can be obtained is creosote oil, price about one penny a gallon, or even less, and

this is the kind generally used. It can be obtained at the gasworks; and as gasworks are so numerous and scattered, there is no difficulty in obtaining it.

One great advantage possessed by this light is that it does not require protection from aerial currents. Indeed, the storm produced within the lamp by the compressed air is so great that the flame defies any storm from without. The noise made by the flame is sufficient evidence of the violence of the storm which is going on within the lamp. The flame is also so long—about three feet in the two-thousand-candle lamp—that the light is well diffused, and the objectionable black shadows produced by the electric light are entirely absent. The flame can be bent into any position—horizontal, vertical, or at any angle with these positions. This is a great advantage for some purposes. Another advantage is, that the total original cost for plant is said to be only one-fourth that required for the electric light; and the machinery being of a much lighter description, can be more readily transported from place to place.

This light promises to have a successful future; and in conclusion, it is only fair to say that associated with Mr Hannay in the patent taken out for the lamp is the name of Mr Lyle, to whom, as engineer, probably belongs the credit of devising the mechanical arrangements of the lamp, which is of most ingenious construction.

### BLOOD-MONEY.

IN FOUR CHAPTERS.

#### CHAP. II.—TWENTY YEARS AFTER.

RIVELING HALL was about two miles from Sheffield, and the Rivelings water ran by the foot of the park. The grounds were extensive for a merely suburban residence; and the house was large, but less pretentious in its style of architecture than its title would have suggested. It was the property of Richard Edwards, Esq.

This gentleman had arrived in Sheffield about twenty years ago; and, having a small capital, had invested it in the business of a clever but impecunious man. Under the direction of Edwards, the trade of the firm rapidly developed. Year by year its reputation for thorough work extended, and the demand for the productions of Messrs Edwards and Clark increased. The little workshop in which Edwards had found Clark grew into a huge building, in which two hundred people were employed. The restless energy of Edwards carried everything before it; and, on the death of his partners, he, being now free to act as he pleased, added still further to the works. Some marvelled at the rapidity of his rise in the manufacturing world; some envied it; but although he obtained the homage which wealth can always command from the majority of mortals, there were few who sincerely called him friend. In his success he was generous. He built churches, subscribed munificently to local and general charities, and no real case of distress which was brought under his notice was ever

allowed to remain unrelieved. Whilst prosperous in the highest degree in business, his domestic life was one of profound gloom. He built Rivington Hall, and wedded a lady who possessed a considerable fortune. Children were born, and passed away one by one before the joys of paternity could be realised. Then his wife died, and Edwards was left with increased riches, but a cheerless home.

About this time he brought from a French boarding-school a girl about fifteen years old, who was understood to be his daughter by a former marriage. As Lizzie Edwards was a bright and beautiful creature, he doubtless supposed that she would bring some happiness to the desolate hearth. Whether she did so or not, no one could tell. The girl was supplied with all the luxury that heart could desire; but in her twentieth year, although more beautiful than when she first arrived at the Hall, she did not appear to be so light-hearted as she had been then. There was an old housekeeper who shook her head, and whispered in confidence to her cronies: 'There seems to be a curse on this house.'

On a bright day in June, there stood, under the shadow of a beech-tree at the foot of the park, a man, who was looking eagerly towards the Hall, and was evidently watching for the coming of somebody. He was young—about twenty-eight—and well favoured by nature in face and figure. He wore a dark tweed suit, and a low-crowned felt hat. Youth and strength were his, and yet, on this bright day, there was trouble in his heart. But the sunlight flashed in his eyes when he saw a girl, simply but prettily dressed, emerge from the house. She put up her sunshade, and walked—leisurely, as it seemed, like one who is merely taking an airing—across the park in the direction of the beech-tree.

'She is coming, then!' the man whispered joyfully to himself, as he drew back a little, so that the trunk of the tree stood between him and the house.

When the girl was near the tree, she gave a hasty and frightened look backwards, as if to assure herself that she was not followed. No one was visible, and she cautiously quickened her steps. This was Lizzie Edwards; and he who was waiting for her was George Corbet, a civil-engineer in business in Sheffield.

'I am grateful to you, Lizzie, for this proof of your confidence in me,' he said fervently.

The girl's hand trembled in his. She seemed half afraid to look at him. 'Did you need any proof of that?' she asked simply, and raised her eyes.

'No, no; and I will try not to repeat that mad proposal of flight. But you told me to hope and wait.'

'And I repeat the words now—hope and wait.' The words were accompanied by a faint smile, intended to comfort him.

'Then what I have heard is not true—you have not consented to marry Sir Joshua Wigan?'

'My consent has not been asked. My father expects that, having told me, I must not think of you: time and separation from you will bring me round to his wishes, by enabling me to under-

stand and appreciate the great honour intended for me.'

'And but for me, you might accept that honour—ay, and be happy, perhaps, for Sir Joshua is known to be a good fellow,' commented Corbet gloomily. 'You are barred from a position most women would be proud of, by my selfish love.'

'And my own,' she added with gentle chiding in her voice.

'Ah!—that is my justification.' The glad light was in his eyes again. 'But if I thought that by going away and giving you time to forget me, as your father wishes—if, by doing this, I thought your happiness would be more assured than it can be by me, I think I could do it.'

'Hush, George! You know that I cannot forget you; and if you were capable of such cruelty, I should suffer, but could not forget.'

'I am sure of it, my darling; and that is why I do not mean to make such a useless sacrifice. But we must look our position square in the face. You are the daughter of a wealthy man; and I am comparatively a poor one, with only "prospects" to reckon in my favour. Your father refuses to wait until some of these prospects are realised. We cannot blame him for that—at least not much'—

'But I understand, Sir Joshua is not rich,' she interrupted.

'He has his title and his pedigree, and they are worth a great deal in the eyes of some people. Your father is one of them, and he thinks that the best he can do for you is to give you to this worthy man. We think differently, and can offer no other explanation for our audacity than that we love each other.'

'That is not enough, George?'

'To us, yes; but to your father, no. We are fools, in his opinion, and blind ones too, for we cannot see that he is only saving us from an act of folly, which, if committed, we should bitterly repent. We don't believe that, and he asserts his authority. He forbids our engagement, and presents to you the man he has chosen to be your husband. He will use his authority still further, and insist upon your obedience. Do you think you are strong enough to hold out against his arguments, his persuasions, and his commands?'

It was difficult for the girl to answer this question. She believed that she would be strong enough to hold out against every influence brought to bear on her; but when thought with its instantaneous photographic power presented to her the picture of the rebellious attitude she would be compelled to assume towards her father, she hesitated, doubting herself, and afraid to pain her lover by any faltering answer. She knew that no arguments, persuasions, or commands could alter her affection; but what she might do to escape constant persecution, it was not easy for her to decide. Then she looked at Corbet, and meeting his eager, inquiring gaze, she answered impulsively: 'Yes, I am strong enough to resist them all; but my father will not insist when he sees that insistence is useless. He will not insist when he sees that if I did consent, I should be miserable.'

'I hope it may be as you believe; but—Lizzie, the day is already fixed for your marriage. Your father is not to wait until you have forgotten me;

he has decided to carry out his plans at once, in order to give us no chance of spoiling them.'

The girl stood dumbly gazing at her lover. Surprise and dismay were in her expression. She only said under her breath: 'There *must* be some mistake—it is not possible that my father would do this without one word to me.'

'I did not think he would; but he has—he himself told me yesterday. That was why I asked you to meet me here.'

'Oh, but he must have spoken when he was in anger, and in the hope that the statement would discourage you.' She was seeking vainly for any explanation which would tally with her own wishes. She could not bring herself to believe that her father would attempt to force her will by publicly announcing the marriage, so that, in dread of the scandal which her open rebellion would cause, she might yield.

'He was angry; but he meant what he said.—Now, my poor Lizzie, how are we to resist him?'

'I do not know. But they *cannot* force me. No, no; they will not try. My father is cold—sometimes harsh, maybe; but he does desire my happiness; I am sure of that. It is only because he is so proud of me that he wants to bring about this marriage.' She had been speaking excitedly, but suddenly checked herself, and said calmly: 'No matter what they may do, George, I am yours until *you* reject me.'

He clasped her hands in his: there was no need to speak; no need to repudiate an impossible contingency. His silence was a more solemn assurance of constancy than the loudest protestations in words could have been. She felt it so, and there was infinite trust in the tender blue eyes which gazed into his. Whatever evil fortune might betide him, he had one possession which Fate could not take from him—the love of a true woman. He knew it, and the knowledge made him strong.

The blissful silence was disturbed, and the confident smile faded from their faces, when Corbet, looking up, saw Mr Edwards advancing towards them. 'Here is your father,' he said quietly; 'I suppose there will be another rumpus; but do not fear; I shall keep my temper.'

Instead of trying to avoid the father, they advanced to meet him. Lizzie could not help a slight feeling of trepidation; but she, like her lover, was conscious of some new strength within her which would sustain her against any wrath or tyranny that might be exercised upon her.

Mr Edwards bent his head in recognition of Corbet as they halted. 'You can say good-bye to Mr Corbet, Lizzie, and go into the house; I want to speak to our friend.' There was no anger or irony in his voice; he spoke as if there were nothing strained or unusual in the position of affairs.

She obeyed him; and as she slowly made her way back to the house, the two men stood face to face—both calm and both resolute.

Mr Edwards was a short, square-shouldered man, verging on his fiftieth year; but although his clean-shaven face should have made him look younger, the deep furrows on his brow and under the eyes combined with the plentiful sprinkling of gray amongst his crisp black hair to add at least ten years to his apparent age. His features

were rugged, and suggested a hard indomitable nature; whilst his quick, pale brown eyes indicated restlessness of spirit rather than energy. In spite of this contradiction of his physiognomy, he gave the impression of being a man with whom one would not care to quarrel lightly.

'I am sorry, Corbet,' he began in a subdued voice, 'that I spoke so hastily at our last meeting—all the more sorry, as your presence here to-day proves that my words made no impression on you. For my haste and anything unpleasant I may have said, you must find excuse in my anxiety about the future of my daughter, and in the fact that you have so seriously interfered with my plans for her welfare.'

Corbet was as much confounded by the manner as the matter of this address. He had anticipated wrathful reproaches, and had prepared himself to meet them with a resolute refusal to abandon his hopes of yet convincing Mr Edwards that Lizzie's happiness could not be secured by trying to separate her from the man she loved. But he was completely taken off his guard by the mild tone and the apology of the father.

'Certainly, your reasons for feeling annoyed are ample,' he said frankly; 'and I trust that you will admit my reasons for declining to accept your decision as final are also good.'

'From your present point of view, yes. When you are older, if you ever think of my position, you will acknowledge that in acting as I am doing, my conduct is prompted by a natural desire that my daughter in beginning life should have the advantage of my experience.'

'Without waiting to be older, I acknowledge that you are actuated by the best of motives; but I can never acknowledge that you are right in taking Lizzie from me, unless you know something which justifies you in believing me unworthy of her.'

'Then your idea is, that a perfectly inexperienced girl may decide for herself on the most important step in her life, without regard to the wishes or judgment of her parent?'

'That is rather a hard and fast way of putting it, Mr Edwards. I certainly do not mean that your wishes or judgment should be disregarded; but on your side, I think you are bound to consider her wishes.—Now, tell me straight out what is your objection to me?'

'One that you will not appreciate: you cannot give her the position I desire her to attain.'

'And in order to give her the position which would gratify your own vanity, you would sacrifice her happiness!' exclaimed Corbet passionately.

Mr Edwards remained perfectly calm; indeed, he seemed to be sorry for the young man, and ready to make all due allowance for his excitement. 'I do not think her happiness is at stake,' he answered quietly, without any reference to the charge against himself. 'So far as you are concerned, I own that you have made a deep impression on her mind; but she is too young for that impression to be permanent. You also are in the same position; and one day you will both thank me for having interfered with this youthful fancy.'

'Never!—I think you do not know Lizzie, and I am sure that you do not know me.'

'That may be; but I know myself; and unless

you can give me more tangible evidence than mere assertions of ineradicable affection, and so forth, that the course I have chosen for my daughter will mar not make her future, I shall claim a parent's privilege to guide her, and, if necessary, to command her obedience.'

'But you cannot command my obedience to your will; and as I know that she will be true to me, you will be obliged to submit in the end.'

'You speak more like an audacious schoolboy than a man of common-sense, Corbet; and in so doing, you are proving to me that my decision is the right one—you are too impulsive to be a safe guardian for my daughter. She will obey me.'

Corbet smarted under the words 'audacious schoolboy,' although they were uttered so calmly that they seemed to be meant rather as a kindly reproof than as an expression of contempt. He controlled the passion which was threatening to master him, and answered with firmness and some degree of composure: 'If she does obey you, Mr Edwards, it will be under the influence of your enforced authority; and I refuse beforehand to be bound by any constraint you may exercise upon her. I shall not release her from the pledge she has given to me until she herself asks me to do so.'

'Very well; she shall ask you.'

'But I shall have to be satisfied that she asks of her own free-will, and not under compulsion.'

'I see that it is useless to attempt to reason with you, Corbet; and as you are resolved to ignore me in this business, I must adopt what measures may be in my power to prevent you from seeing or corresponding with her.'

'You will fail.'

'Well,' answered Mr Edwards with a faint smile at this defiance, 'it is said that love laughs at locksmiths; but it does not always prove strong enough to overthrow the sense of duty to which I mean to appeal.—Good-bye; and I am sorry that you and I must cease to be even acquaintances.'

'So be it,' rejoined Corbet in his strong clear voice.—'Good-bye.' He walked swiftly away; and Mr Edwards, with both hands resting on the handle of his heavy staff, stood looking after him. There was no anger in the expression of his face, despite the young man's bold defiance of all that a father regards as his natural authority. Regret and doubt were the feelings which disturbed his mind—regret that he should have been obliged to quarrel with this impetuous and not too civil young man, of whose abilities he had formed a high estimate; and doubt lest he should not be taking the best course to assure his daughter's happiness. Since he desired that above all things, why should he not surrender to the wishes of the lovers, and let them take their chance of finding out whether or not they had blundered in opposing his experienced counsel?

To his relief came the cynical reflection, that if he did yield to them, Corbet would speedily discover how he had hampered himself by marrying at the threshold of his career; and she, perceiving how much more successful he might have been if he had been free, would be miserable.

That must not be ; and the place of this gloomy vision was taken by one of Lizzie as Lady Wigan of Foxmoor, lifted at once into a high place in the ranks of the aristocracy—for the baronetcy of Foxmoor was one of the oldest in England, and esteemed above any modern earldom. Lizzie was a girl of spirit, he felt sure, and would speedily come to appreciate the position his wealth had provided for her, while she would find in Sir Joshua a faithful and attached husband.

What nonsense for him to hesitate : he had decided aright, and he would not commit such an egregious act of folly as he would do if he were to thrust aside his own judgment and experience for a girl's fancy. He turned, and walked thoughtfully across the park. On entering the house, he sent for Lizzie ; and she found him in the library, standing with hands clasped behind him, gazing out at the window. He was so absorbed that he did not hear her approach, and she remained for a few moments timidly waiting for him to speak. At length : 'Papa, you sent for me,' she said in her soft voice.

He started, and wheeled round as if he had been frightened by something. His face was pale, and bore the expression of one who has been suddenly roused from a painful dream. The thought which was torturing him took the form of a question iterated and reiterated by mysterious voices in his brain with a monotonous cadence that worried him and defied all his efforts to silence it. '*Am I in the right? Or will this be another act of betrayal which will drive me to madness?*'

These words were still ringing in his ears, when he spoke to her in a somewhat dazed fashion : 'Yes, yes ; I want to speak to you, Lizzie. Sit down. We must try to be very cool, for what I have to say will affect your whole life, and mine also. Come over to the sunshine.' He pointed to a chair in the window recess, whilst he sank on one opposite, passing his hand over his eyes, as if to clear away a mist. A bright sunbeam passed like a golden bar between them.

#### THE FLOWERS AND PERFUMES OF SOUTHERN FRANCE.

For nearly a century the culture of flowers on a large commercial scale, and the manufacture of perfumes and essences, have formed a special and lucrative industry in the south of France. The principal part of this dainty manufacture is at Grasse, in the department of the Maritime Alps ; but it is also conducted on a more or less extensive scale at Sommières, Nîmes, Nyons, Seillans, and other neighbouring points. As the business is largely extending, and the exports of perfumes are increasing, the American consul at Marseilles has visited the districts, and has sent home an interesting Report to his government. In this, the subject is naturally divided into two branches—the first dealing with the culture of flowers and blossoms ; and the second, the manufacture therefrom of the pomades, essences, and perfumed waters of commerce.

The kinds of flowers principally grown, and their season of harvest, are the violet, jonquil,

and mignonette, which are usually gathered in February, March, and April ; although in mild, moist winters the violets begin as early as December ; roses and orange blossoms, with thyme and rosemary, in May and June ; jasmines and tuberoses in July and August ; lavender and spikenard in September ; and the acacia in October and November. The harvest of flowers covers, therefore, about three-fourths of the year ; but the season of greatest activity is May and June, when the roses and orange blossoms are gathered. Thyme, rosemary, and lavender are among the minor products, grown principally in rural districts by grape and olive farmers, who have at home the simple apparatus required to distil the flowers, and who produce a more or less inferior class of essences, which are used to dilute and adulterate the superior essences produced at the larger establishments in towns and villages.

As the conditions of industrial success in flower-growing can be best studied by a specific example, the plantation belonging to Madame de Rostaing, at Seillans, in the department of Var, may be taken as a typical farm. It includes about twenty-three acres, located on the southern slope of the Maritime foot hills, about two thousand feet above the level of the Mediterranean, and about twenty miles from the coast. The calcareous soil was naturally thin and poor ; and the olive trees which had occupied the ground for a century or more prior to 1881 yielded but scanty and unsatisfactory returns. The slope of the surface was so steep, that the waters of a spring which flows from the rocks above the tract could be but imperfectly utilised for irrigation, and the land was regarded as practically worthless. In 1881, the proprietress caused the olive trees to be removed and the land prepared for flower-culture. First, the ground was dug up to a depth of four feet, the larger stones removed, and built into sustaining walls for the terraces into which the surface was divided and levelled. Along the upper margin of each terrace, a shallow ditch was cut, connecting with transverse channels, which supply the spring-water for irrigation. The abruptness of the slope will be indicated by the fact that, on a tract of eighteen acres, the terrace walls required to produce a series of level or gently sloping surfaces, are two thousand one hundred and sixty-six yards in length. Thus terraced, the tract yielded seventeen and a half acres of prepared land for planting. In the autumn of 1881, forty-five thousand tufts of violets, and one hundred and forty thousand roots of the white jasmine, were planted ; and in the following spring, the remainder of the ground was planted with roses, geraniums, tuberoses, and jonquils, and a laboratory erected for the manufacture of perfumes. The location proved to have been well chosen ; the flower-plants grew vigorous and strong ; and in 1885, the fourth year after planting, the farm which had previously yielded a rental of twenty-three pounds a year, produced perfumes of the value of £8630, and gave a net profit for the year of £1533, 16s. The difficult nature of the ground had made its preparation unusually laborious and expensive ; but in this balance-sheet, the interest on the entire investment is included in the expense account, so that the profits as

stated appear to be clear and legitimate. Of course, the plants and shrubs at Seillans have not yet reached their full productive capacity; but the results of the fourth year illustrate sufficiently how lucrative flower-farming may become in favourable locations and under good management.

From the observations made on this and many other farms where perfume-flower-growing is the leading branch of agriculture, it is clear that there are certain conditions essential to success. The first is an altitude of from five hundred to two thousand feet, as flowers grown on such high locations are said to be far more rich in perfume than similar varieties which bloom in valleys and lowlands. The next condition is a soil rich in calcareous elements. Thirdly, the situation should be sheltered from cold northern winds, and not subject to the white frosts which, in spring and autumn, affect the damp lowlands. In countries like Southern France, where the rainfall is always scanty, and often wanting entirely from May to September, irrigation is essential also; but no doubt there are spots with sufficient humidity where this could be dispensed with.

One essential principle in perfume-culture is, that all fancy and 'improved' varieties of flowers are discarded, and the natural, simple, old-fashioned kind are exclusively grown. The roses grown are the common pink ones; the single wild violet is preferred to all the larger artificially developed varieties; and not a double tuberose is to be seen on any farm. Only the white jasmine is used, the yellow and less fragrant variety being either discarded or unknown. The jasmine plants are set in rows about ten inches apart, and are closely pruned every year. Roses are grown on the lower terraces, and are likewise cut low, and the ground between the trees heavily manured. After the roses have been gathered, the stem is cut to within a few inches of the ground, so as to conserve for the next season the entire vigour of the plant.

During the harvest season, traders, or middlemen, go through the country every day with wagons collecting flowers from the farms, for which they pay prices varying according to the extent of the crop and the demands of the market. Their fragrant load is hurried to the nearest manufacturer, and delivered while the flowers are still fresh and crisp. It is necessary that the flowers should be gathered in the morning as soon as possible after the dews of the preceding night have disappeared. In many cases, laboratories are erected on the flower-farm itself; and if the farm is of sufficient size, this adds very much to the profits.

This brings us to the subject of the manufacture of perfumes, which includes the making of 'pomades' and oils by the process of absorption, and of essences and essential oils by distillation. Every complete establishment is equipped with apparatus for all these processes.

Pomades are the commercial vehicle for absorbing and transporting the perfumes of the jonquil, tuberose, jasmine, and a few other species of flowers. A square frame, or *chassis*, of white wood, about twenty inches by thirty inches in size, is set with a pane of strong plate-glass. On each side of the glass is spread a thin, even layer

of grease, which has been purified and refined. Thus prepared, the frames are piled up in ranks six or seven feet high, to await the season of each special flower. When the blossoms arrive, the petals are picked from the stem—the pistils and stamens being discarded—and laid so as to cover the grease in each frame. These being again piled so as to rest upon their wooden edges, which fit closely together, there is formed a series of tight chambers, the floors and ceilings of which are of grease, exposed to the perfume of the flower-leaves within. The grease absorbs the perfume; the spent flowers are removed daily, and fresh ones supplied; and this process goes on from two to four or five months, according to the desired strength of the pomade, which, when sufficiently charged with perfume, is taken from the glass with a wide thin spatula, and packed in tin cans for export. By these methods, the delicate odours of flowers are extracted and retained for transport to distant markets, where, being treated with alcohol, they yield their perfume to that stronger vehicle, and produce the floral waters and extracts of commerce. Coarser pomades are made by boiling the flowers in the grease and subjecting the residue to pressure. The spent pomades are used for toilet purposes and in the manufacture of fine soaps.

The process of preparing perfumed oils involves the same principle, except that, instead of solid grease, superfine olive oil is used. With this oil, pieces of coarse cotton fabric are saturated, which are then spread upon wire-netting stretched in wooden frames about three feet by four feet in size. The flowers are spread upon the saturated cloths, and the frames piled one above the other, so that the perfume of the flowers is absorbed as in the previous process.

Essences and 'flower-waters' are produced by ordinary distillation, in which the flowers are boiled with water in large alembics. The vapour carries off the perfume, and is condensed in adjoining copper tanks, like ordinary spirits. Some of the retorts used for this purpose are of sufficient size to receive at once half a ton of fresh flowers with the requisite water for their distillation. When 'flower-waters' are to be produced, alcohol is used in the distilling tank to receive the perfumes. By skilful combinations of the perfumes of different flowers, sometimes with the addition of chemicals, a large variety of handkerchief extracts, such as 'Patchouli,' 'Jockey Club,' 'West End,' &c., are produced.

All these details of manufacture require careful and skilful manipulation. A mild, uniform temperature is secured by the heavy stone buildings in which the process of absorption is conducted, and scrupulous cleanliness is required at every stage of the manufacture. After removing the pomades from the frames, the glass is removed and cleansed with alkalies, and the frames scraped to remove every vestige of grease, which, by becoming rancid, might spoil the product of the next operation. The work of the manufacturers is largely done by women, who earn from tenpence to one shilling for a day of ten hours. During the busy season of roses and orange-flowers, they earn half as much more by working until midnight, or later. Labourers on the flower-farms receive the ordinary low wages paid for agricultural labour in the district, as

there is nothing in the culture of the flowers that is beyond the skill and understanding of an ordinary farm-hand, when directed by an intelligent and experienced overseer.

THE NEW RULE.

A HOSPITAL COMEDY.

THE directors, governor, and matron of St Lazarus' Hospital had unanimously promulgated a new law—a wise and salutary enactment, it may be, but one of terrible import—namely, that every nurse who became ‘engaged’ to a student or doctor connected with the hospital should forthwith be dismissed.

There had been a good deal of love-making within the walls of St Lazarus. There usually is where young men and maidens have frequent occasion to meet each other; and even hardened and avowed celibates who could resist the fascinations of the loveliest girl in Europe when she was attired according to the dictates of fashion, and was bent on nothing but her own amusement, succumbed to a pretty ‘sister’ dressed in a dainty cap and simple gown, and engaged in tending the suffering. Several marriages had thus been arranged; and Mrs Saunders, the matron, who, being a widow herself, considered the marriage of any of her subordinates ‘most un-nurse-like’—she was fond of this phrase, having invented it—felt it to be her duty to urge upon the governor the necessity of pressing upon the directors the necessity of putting a stop to all manner of courtship or flirtation.

‘The amount of sentimental nonsense that goes on in the hospital is positively scandalous,’ she said. ‘I’m sure it isn’t my fault; I do all I can to prevent it, and yet it goes on.’

Mrs Saunders did herself no more than justice. If any man in the place could look on a nurse without positive aversion, it was not her fault. She wished her nurses to be, she said, ‘neat, but not attractive.’ The bewitching fringe was strictly tabooed; and since it had come into fashion, the wearing of the hair short, adopted by several nurses, as being the simplest possible coiffure, had met with her entire disapproval. Unfortunately, she could not disfigure the noses and eyes of her ‘sisters,’ or she would certainly have done it.

She was held in unmitigated awe and modified esteem. The merest hint of her proximity was enough to make the most sentimental couple find pressing occupation at opposite ends of the corridor or ward in which they had met; and it was a great trial to her that, owing to her being a heavy dame, of ample person, who could not exactly dart into a ward like a sunbeam, she had never been an absolute eye-witness to any ‘nonsense,’ as she called it. She knew that love-making was going on around her; she felt it in the air; and yet she was never able to lay her finger on a tangible instance of it. Therefore, until her brain evolved the bright idea of turning brothed renegades out of doors, she was very unhappy. Now, a calm sense of triumph brightened her usually austere and frowning brow.

The new regulation provoked some indignation among most of the nurses. Sister Fanny, indeed, said she didn’t care; she didn’t want to

get engaged to anybody, and the new rule did not forbid one’s being—well, pleasant to—people. Sister Evelyn declared that she thought it just and necessary (‘the goings-on were shameful,’ she said); and Sister Phoebe remarked, with her brightest, merriest smile, that it would not affect her one bit. But all the others were wroth, and one probationer burst into tears, and threatened to leave the hospital without awaiting the contingent dismissal.

‘You needn’t be so frightened,’ said Sister Evelyn. ‘You’re not likely to be sent away on account of your getting engaged. There won’t be any occasion for it.’

‘Perhaps not,’ observed Phoebe in a musing tone; ‘but I think Sister Evelyn is the most likely of any of us to escape even the suspicion of flirting.’

Sister Evelyn glared at the speaker, who looked as placidly unconscious as possible. Between the two there existed that comfortable spite, breaking out into occasional passages of arms, which is the very salt of life to women who lead a monotonous existence. At least it was the salt of life to Phoebe. Perhaps the other did not enjoy it so much, for, as a rule, she got the worst of these encounters of wits. She had at first hated Sister Phoebe merely on principle, because she was pretty; but these little battles, in which she was so often worsted, had made her regard her with a detestation beyond what she felt for any other good-looking girl in the place.

Sister Evelyn had begun life as Mary Anne Giles, and came from some unspecified part of the ‘great unexplored East End.’ It was said that she had brought thence some oriental habits of thought and speech; but this was matter of opinion. What is certain is that, when she joined a nursing sisterhood and gave up her surname, she threw her unromantic pronomen overboard as well, and appeared under the sentimental title by which we have spoken of her. This change of style leaking out at St Lazarus’ had occasioned some amusement, which Sister Evelyn had resented so vigorously, that she was now the most unpopular nurse in the whole establishment. She was rather disgusted with nursing altogether, and was inclined to give it up, finding it harder and less congenial work than she had anticipated. And, besides, the hospital cap was unbecoming to her. But she got on well with Mrs Saunders—some of the others said she toaded to the matron—and so she stayed on.

Phoebe Chester, in hospital parlance Sister Phoebe, was, on the contrary, a universal favourite. She was the best surgical nurse in the place, so the doctors liked her. She had a pretty face—which the cap Sister Evelyn found so trying suited to perfection—and a neat figure, so the students and resident surgeons admired her. She had a winning smile, a soothing voice, and a noiseless step, so the patients adored her. There was a general feeling of deep regret when it was whispered that Phoebe was flirting with Dr Harrington, and that there was question of an inquiry into the matter, with a view to ascertaining if any engagement existed between them.

‘It can’t be true,’ exclaimed Sister Fanny. ‘Phoebe has always been as nice as possible to everybody; but she never took special notice

of any one of the doctors. It is only that spiteful cat's jealousy, because she is in Dr Harrington's ward, and he never looks at her.' (The 'spiteful cat' was Sister Evelyn.)

'But,' said the probationer who had hinted at the accusation, 'Dr Harrington is so pleasant and so handsome, that even Sister Phœbe might be—different—to him. And I did see them on the stair together, and—'

'Well—what? Was there anything that looked like flirting?'

'I don't know if you would call it so—for Sister Fanny was known to be broadly tolerant in the matter of civility, and did not apply the title of flirting to any but extreme cases. I don't know if you would call it so; but Sister Phœbe was talking to him very hurriedly and earnestly, and he looked very much pleased. Of course, I saw them long before I heard their voices; but as I came nearer the landing where they were, she gave him her hand and said: "Good-bye—I suppose I must say 'doctor' still, as we are in the hospital; but on Sunday I'll call you Walter."

'What did he say to that?'

'He stooped and—kissed her hand, saying: "Phœbe, you are the cleverest, as well as the dearest and prettiest little woman in the world!" She shook her head at that, and withdrew her hand. She was going away, when he asked her: "What about yourself?" She smiled, and touched the third finger of her left hand with the forefinger of the right. "I must not wear a ring," she said; "but it is shining on my soul's hand as bright and firm as ever." It did seem funny to hear Sister Phœbe, who always laughs at love-making, make such a sentimental speech as that.'

'Yes, it is unlike her. It almost makes one think there is something between them. But I hope not. It would be terribly dull if Phœbe went; she always manages to make one see the bright side of things.'

'Can't you do anything, Sister Fanny?'

'I will warn her to be careful. But if she is really in love, it is sure to betray itself; and she is too honourable to deny the truth, if she really is engaged.'

The warning came too late to save Phœbe, for some such interview as the probationer had witnessed had been seen by Sister Evelyn, who had immediately reported it to the matron. Mrs Saunders, the 'Mother Superior,' as this most unmatrial of matrons liked to be entitled, went forth to investigate the matter. She had a short interview with Phœbe, unsatisfactory, save that she elicited the awful fact that she was engaged. She obstinately refused to tell the name of her lover.

'Not that your silence matters,' said Mrs Saunders; 'every one knows that it is Dr Harrington you have been going on with. Both you and he will have to see the governor to-morrow about this matter.' Then she dismissed the nurse.

Phœbe went out with her head meekly bent, as if she was thinking of the awfulness of her impending doom; but when she had closed the door, she tossed it up with a saucy smile and executed a most 'un-nurselike' pirouette. Then she produced from the pocket of her apron a pencil and note-book, and there, within three

yards of the condemning matron—such was her unparalleled audacity!—scribbled a note to Dr Harrington. This she intrusted to the senior probationer in his ward, who gave it to him next morning almost under Sister Evelyn's eyes.

That day, the two culprits were arraigned before the governor, Mrs Saunders accompanying Phœbe as accuser. Walter Harrington, who exchanged a glance of amused confidence with the Sister as she came in, was the first to be examined.

The governor, after repeating the new rule, and discoursing for a minute or two on the necessity for it, asked: 'Dr Harrington, have you entered into a matrimonial engagement?'

'Really,' said Harrington, 'I can hardly say. I think I have; but—may I ask you the day of the month?'

'What do you mean?' asked the governor. 'Are you mad?'

'I hope not. I assure you that the information I ask for is essential to my answering your question.'

'It is the 20th of May.'

'Then—I am engaged.'

'To Miss Chester?' The governor alluded to Sister Phœbe; but he was very old-fashioned, and could not acquire the habit of calling the nurses Sister This or That. He spoke of them as he would of any other young ladies.

'To Miss Chester,' repeated Harrington.

'May I ask when this engagement began?'

'Certainly. It began to-day.'

'To-day!' repeated the governor in some surprise.—'Perhaps, Mrs Saunders, we have been unduly prompt. Doubtless, Dr Harrington and Miss Chester would have announced their engagement in proper form, and have volunteered their resignations.'

'I had no intention of resigning,' remarked the young doctor.

'But the law—'

'The law does not affect me.' The governor was about to rebuke severely this indifference to rules and regulations, when Mrs Saunders interposed. 'I don't want to cast any doubt on Dr Harrington's truthfulness,' she observed acidly; 'but Sister Phœbe confessed to her engagement yesterday, which does not exactly corroborate his statement.'

'It certainly does not.'

'I think,' said the matron, 'that Dr Harrington is concealing the truth, in order to hide his disobedience with regard to the new law.'

'Dear, dear; that is very shocking!' said the governor, getting bewildered at the new accusation; while Dr Harrington bowed, and expressed his obligation to Mrs Saunders for the high esteem in which she held him.

The matron turned her back on him, and said to the governor: 'You had better question Sister Phœbe. You will at least get the truth from her. Girls are too proud of being engaged to deny it.'

The governor turned to Phœbe, prepared to act the part of stern upholder of authority; but her face looked so meekly bewitching, that his heart softened within him; and he remembered that he had daughters of his own, who liked to have lovers as much as any other girls.

'Well, well, Miss Chester, this is very sad,'

he began rather vaguely. 'Of course it is quite natural and right, and no one could expect you to remain unmarried all your life; but law is law, and must be obeyed. Otherwise, I would suggest—and even as it is, perhaps'— He was actually about to propose making an exception in Phoebe's favour, when he felt Mrs Saunders' cold hard eye freezing him to the bone. He coughed, dropped his preamble, and proceeded to catechise, though in an apologetic and paternal tone, which the matron disapproved of. 'Now, do you mind telling me, my dear, how long you have been engaged?'

Phoebe blushed a little, and looked down, but answered quite clearly: 'A long time—nearly two years.'

'But Dr Harrington says his engagement began only to-day.'

'Yes; that is quite true.'

'But, my dear girl, it takes two people to make an engagement as well as a quarrel. If you have been engaged to Dr Harrington for two years, he must have been engaged to you for the same time.'

'Oh, I see!' Phoebe smiled as if a new light began to dawn upon her. 'But I am not engaged to Dr Harrington.'

'Why, he said you were.'

'Excuse me, I did not,' said Harrington. 'I am engaged to Miss Chester—not to Miss Phoebe Chester, whom I should have called Sister Phoebe, as every one in the hospital does; but to her cousin, Miss Elsie Chester. Mr Thorpe, Elsie's uncle and next of kin, would not consent to her promising to marry a man who had his fortune to make; and as she was a ward in Chancery, there could be no tie between us till she came of age and was free to act for herself. This is her twenty-first birthday, and I may now look upon myself as her future husband; for, though there has been no communication between us for a year, Sister Phoebe—who has been very kind in telling me all her cousin says and does—said to me two days ago that Elsie had declared her intention of accepting me if I offered myself after she reached her majority. She would receive my proposal this morning. I expect her reply, which I think I may assume will be favourable, by the afternoon post.'

Mrs Saunders looked indignant at this explanation. If it were not discourteous, one might say that she sniffed at it, as if dubious of its accuracy; but Harrington caught sight of a gleam of sympathetic humour in the governor's eye, as he turned to Sister Phoebe with the query: 'Well, Miss Phoebe, and what is the truth—the real truth—about your love-affair?'

'It's a very hopeless one,' she said with a little sigh. 'I am engaged to my cousin Jack, Mr Thorpe's son. Uncle Thorpe doesn't approve of the match, because I am poor and have to work for my living. Jack has gone out to Rio Janeiro, because he is likely to get on better there; and as soon as his income is large enough to justify our marrying, he is going to send for me. That's all. I would willingly have told the Mother Superior all about it, if she had asked me as a friend; but I do not feel bound to confide my poor little romance to people whom I know to be unsympathetic. It isn't in any way opposed to the rules of the hospital.'

'No, no; of course not,' answered the governor good-naturedly. 'And though I am sure we shall all be sorry to part with you, when your Jack claims you, I hope for your sake that it won't be long.—Now, go away to your work, both of you, and—and next time you are *not* breaking a rule, don't behave as if you were.'

Phoebe and Harrington left the room. Mrs Saunders remained.

'Well, they've got the best of it,' said the governor, chuckling a little at the matron's evident discomfiture. 'Your sp—I mean, informant—has been too hasty in jumping to conclusions. She must have a better authenticated case next time.'

'My opinion is,' said Mrs Saunders, not deigning to answer these remarks, 'that any promise of marriage should entail dismissal from the hospital, even though both the contracting parties do not belong to its staff.'

'I don't know how that would work,' replied her companion. 'You see, if the intent to commit matrimony be criminal, the commission of it must be much worse, and would certainly deserve a punishment no less severe, which would entail every one of the honorary surgeons, and myself, and even you, being turned out of our comfortable berths, and thrown out on the world, which I at least should consider inconvenient. I think, on the contrary, that the wiser plan would be to rescind the new rule.'

And the new rule was rescinded, or was at least allowed to fall into honoured desuetude. Walter Harrington left the hospital, and married his Elsie soon after the little misunderstanding recorded above; but Sister Phoebe brightened the wards of St Lazarus' with her presence for a year longer. When, however, she left to become the wife of Jack Thorpe, no one expressed more satisfaction than Mrs Saunders, though I fear this was from anything but good-will towards the bride.

#### OCCASIONAL NOTES.

##### AN ENORMOUS FARM.

ALMOST contemporaneously with the news of the collapse of the famous Bell Farm in the Canadian north-western provinces, we have an account of another, which is not only the largest producing farm in the world, but which throws all other large farms quite into the shade. It is situated in the extreme south-west corner of Louisiana, runs one hundred miles north and south, and many miles east and west. The tract of land embraced in the farm is a million and a half acres in extent, and was purchased from the State and from the government in 1883. This immense tract of land was at once divided into convenient pastures, ranches on stations being established every six miles. The fencing alone cost about ten thousand pounds. The land was found best adapted for rice, sugar, maize, and cotton; and all the cultivation for these crops is done by steam-power. A tract of about half a mile wide is taken, and on each side a portable engine is placed, these driving a cable attached to four ploughs. In this way thirty acres a day are said to be ploughed with the labour of three men only. Harrowing, planting, and other cultivation are done in the same way; and the

manager declares that 'there is not a single draught-horse on the entire place.' There are, of course, horses for the herders of cattle, of which there are sixteen thousand head on the farm. The Southern Pacific Railroad runs for thirty-six miles through the farm; and three steamboats are operating on the rivers of the estate, upon which there are three hundred miles of navigable waters. The farm contains also an icehouse, a bank, a shipyard, and a ricemill.

#### A SHIP-CANAL FOR INDIA.

A remarkable scheme, and one of considerable importance to the commercial interests of our Indian empire, has just received the approval of Sir John Coode, the eminent engineer who constructed the Breakwater at Portland Isle, in Dorsetshire, thereby converting the Portland Roads into one of the finest harbours of refuge on our coasts. The scheme will be readily understood if we refer our readers to the map of Ceylon, by glancing at which it will be observed that between the north point of Ceylon and the south-eastern termination of India is the island of Ramassserim, separated from the Indian coast by a very narrow water-way, kept permeable at a great expense by the Madras government, and yet only available for small coasters. Large steamers and sailing-ships proceeding to Madras or Calcutta are obliged to go all round by the southern point of Ceylon, and then sail direct north for Calcutta or the Bay of Bengal, involving a voyage of many hundred miles, and the loss of much valuable time. It has, in consequence, been proposed to cut a broad and deep ship-canal through the island Ramassserim, and thus open the way to Palk Strait and the Coromandel Coast, obviating the necessity of the long Ceylon route. There are plenty of reasons why the Indian government, as well as the executive of Madras, should support and patronise the scheme, for the latter government would thus be freed from the obligation to keep up the unsatisfactory and very small water-way at present existing. It is understood that all the southern railways are favourable to the proposal. If the canal is ultimately carried out, it is more than possible that it would lead to the establishing of a large canal port on the mainland, whence railway communication might readily be established with the interior. By means of such a railway and the proposed canal, the voyage round Ceylon would be avoided; cargoes would be at once landed at the canal port, and despatched immediately to the interior by railway, and a prodigious amount of valuable time would be saved. This is an important factor in all commercial enterprises; and any scheme to promote the saving of it, in the interests of commerce, will surely never fail to find warm supporters amongst the merchants of Europe and of India, as also of all others who are in any way connected with the trade interests of our great Indian empire.

#### THE PROTECTION OF LIFE AND PROPERTY FROM LIGHTNING.

Persons who have suffered in mind or estate from lightning will be glad to hear about a proposed alleviation of their troubles. Mr W.

M'Gregor, late chief superintendent of the government telegraphs, Assam, as interim secretary of a proposed new Society for the protection of life and property from lightning, has issued a summary of the objects and rules of the Society. These include an examination of the plans of buildings in reference to chimneys, steeples, towers, metal-work employed, with regard to the means provided for safety against lightning. The periodical inspection of lightning-conductors; the reporting on lightning disasters on behalf of insurance companies or occupiers of property. In some cases, a mere telegraph wire would be a sufficient protection; in others, by utilising and electrically connecting ordinary iron rain-water pipes, eaves, &c., with iron rods, and proper earth connections, the first cost would be reduced, and the building rendered safe. Another feature of the Society would be the collection and collation of information as to lightning disasters; while an officer of the Society might be deputed to travel and lecture throughout the country on the subject. Full particulars as to this scheme may be had from the projector of this Society, W. M'Gregor, Kohima Lodge, Bedford.

#### LOVE'S EXCHANGES.

You praise my beauty, grace, and art,  
O Love; but you are much to blame;  
In every line you leave a smart,  
That makes me bow my head in shame.

Whate'er the world may choose to say,  
I look not for such words from you;  
I'd throw them from my heart away,  
If you could even prove them true.

World's praise is but a passing mood,  
That shifts about with the occasion;  
It serves as oft for envy's food,  
As that of honest admiration.

In your regard, I set no store  
On what, by way of form or feature,  
I hold in common, less or more,  
With every other human creature.

If Love be blind, as it is said,  
What can he know of outward graces?  
I care not for the love that's led  
A facile slave of pretty faces.

I would not have my love depend  
On beauty, were I ten times fairer.  
If beauty knew no change or end,  
Life asks for something deeper, rarer—

Something that sets the world aside,  
Beyond the touch of time or season.  
If only love for love abide,  
I do not want another reason.

J. B. S.

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